

Maternal Death in the United States: A Problem Solved or a Problem Ignored?

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ABSTRACT

The United States has a higher ratio of maternal deaths than at least 40 other countries, even though it spends more money per capita for maternity care than any other. The lack of a comprehensive, confidential system of ascertainment of maternal death designed to record and analyze every maternal death continues to subject U.S. women to unnecessary risk of preventable mortality. Maternal deaths must be reviewed to make motherhood safer. The United Kingdom's Confidential Enquiry into Maternal and Child Health is considered the "gold standard" of national professional self-evaluation. The aim of the Safe Motherhood Quilt Project is to raise public awareness of the rising U.S. maternal death rate and necessary steps to a solution.

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Jasmine E. Gant, an honor student and promising athlete, entered St. Mary's Medical Center in Madison, Wisconsin, on July 5, 2006, in labor. A nurse mistakenly gave her a dose of epidural medication in an intravenous line instead of the intended penicillin that had been prescribed to treat a strep infection in labor. The epidural medication caused cardiac arrest, and Jasmine died within a few hours. Her 8-pound baby son survived.

Valerie Scythes and Melissa Farah, special education teachers at the same elementary school in Woodbury, New Jersey, had their babies at Underwood Memorial Hospital and died within 2 weeks of each other in spring 2007. Both were healthy, young, first-time mothers, both had cesareans

and died shortly after giving birth. The second woman's death was particularly eerie for her co-workers, because she was reported to have said, on hearing about her colleague's death, "I wonder if that's going to happen to me." Despite the national publicity that followed, Underwood Memorial Hospital was one of just seven hospitals in the country to receive Johnson and Johnson's childbirth nursing award at the end of 2007.

Angela Wilburn was the first member of her family to graduate from high school. She was 28 years old and pregnant with her 8th and 9th babies at the time. Her nine children were born in 11 years. At more than 41 weeks' gestation, her labor was induced with pitocin and artificial rupture of membranes. With her doula at her side, she la-

bored easily with light contractions for about 2 hours and dilated quickly in about half an hour. Her son Rodney was soon born, weighing 6 pounds, 10 ounces. Before her second son was born, his amniotic sac broke, prolapsing his umbilical cord. The doctor called for a cesarean, and 7 minutes later, Randle was born, weighing 7 pounds 13 ounces. Angela, however, bled profusely from the surgery, and a hysterectomy was performed to try to save her life. A Jehovah's Witness, she refused a blood transfusion and died August 10, 2005, in Coon Rapids, Minnesota. Her estranged husband is in prison. Angela's grandparents are raising eight of her nine children.

At least two of the deaths mentioned above could have been prevented. The medication mistake that killed Jasmine Gant was made by a very experienced nurse, who surely knew better. Was she taking care of too many patients at once? Did Angela Wilburn's doctor decide on the cesarean instead of a breech extraction because he or she had never been taught breech skills? That would have been the recommended step a generation ago. Was anything learned by careful review and analysis of what went wrong in the care of these two women who should be alive today?

It can take a long time, I've learned, to retire a long-held public myth—especially when it is one that is particularly cherished. The myth I'm thinking of is the one that holds that the United States is one of the safest nations in the world for women giving birth. I'm sure that everyone in our country would like to believe this. Like most people raised here, I accepted without question the story that modern medical advances have brought the maternal death ratio (the number of deaths directly related to pregnancy or birth per 100,000 live births) to such a low point that the problem of preventable maternal death could be considered solved. Only after I had been a midwife for more than 25 years was I finally shocked out of my own complacency about the safety of becoming a mother in my country compared with others. For me, the triggering event was a hospital insider telling me that several women within the previous few

weeks had died from complications during or following a cesarean at the hospital where he worked. With no mention of any of these cases having appeared in the media in that city, that surprising disclosure forced me to realize that maternal deaths that occur in hospitals are not usually reported by the media. It was only later that I found out that they might not even be reported as maternal deaths to a government agency, whether at the state level or nationally.

Let's be clear at the beginning that not every maternal death can be prevented. Still, almost all maternal deaths are preventable. The U.S. Department of Health and Human Services (2000) set our national goal for a maternal death ratio to be no higher than 3.3 deaths per 100,000 live births by 2010. Unfortunately, we are far from achieving that goal—in fact, we are moving in the wrong direction.

Currently, according to the World Health Organization and several United Nations agencies, the United States ranks behind no fewer than 40 other nations in preventing maternal deaths (based upon the official but unreliable number*) (Hill et al., 2007). In 1982, the U.S. ratio was 7.5 deaths per 100,000 births. In 2004, it was 13.2 deaths per 100,000. In 2005, the last year for which we have figures, the maternal death ratio was 15.1 deaths per 100,000 births. For African American women, the ratio was an outrageous 36.5 deaths per 100,000 births (Kung, Hoyert, Xu, & Murphy, 2008). In other words, for all U.S. women, the maternal death ratio is almost 5 times as high as it should be, and for African American women, it is more than 10 times what it should be.

The Centers for Disease Control and Prevention (CDC) reported in 1998 that more than half of these deaths could have been prevented (Johnson & Rutledge, 1998)—surely, a conservative estimate. In that same publication, the CDC admitted that not only had there been no improvement in the maternal death ratio since 1982, but also the officially reported ratio was a substantial underestimate because there are so many classification errors in the system. A recent article in a major obstetrical journal revealed a 93% underreporting rate of maternal death in Massachusetts (Deneux-Tharaux et al., 2005). It is very likely that a similar rate of error could be found in the other 49 states.

* I explain below why the official number is unreliable.

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Not only do we have a comparatively high death rate for women from causes directly related to pregnancy or birth, we are almost certainly failing to gather *most* of the data. Because of this, we literally have no idea how many U.S. women die from pregnancy- or birth-related causes every year. The CDC's most recent guess is that they could be missing as much as 2/3 of the maternal deaths (Johnson & Rutledge, 1998). How can we prevent those deaths that are preventable when we don't really know why all of these women are dying?

In case you are curious about how such an error rate in data-gathering can be perpetuated year after year in our country, you should know that, unlike neonatal and infant mortality, maternal mortality is far from easy to count accurately and completely. Women of childbearing age die of a variety of causes that may or may not have any direct link to a pregnancy or birth. Car accidents, domestic violence, and illness all take a toll. There has to be a way to distinguish these deaths from those, which were actually directly caused by the pregnancy, birth, or its aftermath and the care that the woman received (or failed to receive).

When a woman is discharged from a hospital after giving birth and later dies from causes directly related to her birth or the care she got, she may die in a different hospital or in a different part of the hospital than the maternity ward. This is what happened to Lara Nuerge Schultz of Perryopolis, Pennsylvania, who died of a pulmonary embolism in an Ohio hospital nearly a month after the cesarean birth of her first child in 2000. It is very possible that her death was not recorded as pregnancy-related, because the death certificate in Ohio did not include a checkbox asking if the deceased person had been pregnant within the year preceding her death. Could her death have been prevented? Almost certainly, it could have been. Lara's mother-in-law, a nurse, had already noticed that Lara was limping 3 weeks after her surgery. She examined Lara and urged her to go right to an emergency room. Lara didn't believe anything could be wrong. Both her mother-in-law and husband begged her not to take a long automobile trip with other family members to visit an elderly relative in Indiana. If she had had better patient education and follow-up care after her discharge from the hospital, her problem might have been detected earlier and in a way that she would have taken seriously.

Thirty-six-year-old Virginia Wanjiru Njoroge had boy and girl twins by cesarean at a Kansas

City hospital on October 23, 2007. A recent immigrant from Kenya, she was discharged from the hospital and went home to her apartment in a Kansas City suburb. With the babies' father still in Kenya, she was alone in caring for herself and her babies. Three weeks later, a neighbor noticed an unpleasant odor coming from the apartment and notified police. Emergency workers found Virginia's badly decomposed body on the bed. They reported that they might have missed her babies, had it not been for a weak cry they heard when they accidentally bumped the bed. The babies had somehow moved from the bed until they wedged between the wall and the bed. The girl died later at the hospital, but Virginia's boy survived and was sent to Kenya to be raised by extended family members. How can a single woman be expected to keep herself and her newly born babies alive during the days following major surgery?

We've had clues for years that the United States has problems in the area of reporting on mistakes made in hospitals. In 1999, the National Institutes of Health (NIH) issued a report to the media that approximately 100,000 deaths per year take place in U.S. hospitals because of medical errors (Charatan, 1999). That's one third of the population of Iceland per year. The NIH report called for health-care providers to be required to inform state governments of any medical errors leading to serious harm. At that time, only 20 states had such reporting requirements, and just five more states have joined the mandatory reporting group in the 9 years since, leaving half of the states with no such requirements (Rosenthal, Riley, & Booth, 2000; see Box). That report did provide the insight to anyone who read it carefully that mandatory reporting about medical errors has never been carried out on the federal level in the United States. In a survey that followed the NIH report, 60% of patients thought that mandatory reporting of medical errors through a national agency was a good idea, while only 32% of doctors thought so (Tanne, 2002).

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BOX
States With Mandatory Reporting of Adverse Events

California	Nevada
Colorado	New Jersey
Connecticut	New York
Florida	Ohio
Georgia	Pennsylvania
Illinois	Rhode Island
Indiana	South Carolina
Kansas	South Dakota
Maine	Tennessee
Maryland	Texas
Massachusetts	Utah
Minnesota	Washington

year. The maternal mortality rate—along with life expectancy and the neonatal mortality rate—is one of the vital measures of any health-care system that must be monitored from year to year. Ideally, of course, the maternal mortality rate should be reduced every year as physicians, midwives, and nurses learn from past mistakes how to make pregnancy and birth safer. Such reduction can only be expected when the past mistakes are noted and analyzed and when appropriate recommendations are fed back to health-care providers and to the public.

The NIH report sparked a national debate on the reporting of medical errors, but the only legislation stemming so far from the report was a 2005 law that made hospital reporting of errors voluntary. They made a law for this? That's like looking at your dog sitting in front of you and yelling at him, "Sit!" Significantly, the debate surrounding the issue of the shocking number of medical errors never touched on a question that should have been asked: How many of the medical errors uncovered by NIH happened in maternity wards?

Every 3 years in the United Kingdom, the Confidential Enquiry into Maternal and Child Health (CEMACH) publishes a report titled, *Saving Mothers' Lives: Reviewing Maternal Deaths to Make Motherhood Safer* (formerly titled *Why Mothers Die*). The publication, now in its seventh edition, is much like a report card on the results of the combined maternity services in Wales, Scotland, England, and Northern Ireland (CEMACH, 2007). As the public outreach component of the United Kingdom's respected CEMACH, each edition of the book is based on data drawn from every maternal death in the United Kingdom from causes stemming from preg-

nancy or birth during a given 3-year period. Each of the main causes of maternal deaths—hypertension, thromboembolism, hemorrhage, amniotic fluid embolism, infection, anesthesia deaths, and injuries to the cervix, perineum, or vagina—gets its own chapter and includes at least one narrative of a case of such a death. The comparable U.S. report from the CDC and the National Center for Health Statistics is limited to—at most—a page each year (Kung et al., 2008).

The United Kingdom claims a high degree (97%) of accuracy in determining how many maternal deaths occur each year. Sometimes, cases involving substandard care are described in *Saving Mothers' Lives*, but the names of hospitals or cities are never mentioned. Because the purpose of the CEMACH system (the United Kingdom's equivalent of the CDC) is to seek truth, names and places are kept confidential so that the results of the enquiries cannot be used in malpractice lawsuits. *Saving Mothers' Lives* not only provides detailed, accurate numbers of deaths in each category of death, but it also recommends what steps should be taken to ensure that the number will be reduced in the next 3-year period. As of 1999, in the fifth report, building upon the excellent feedback provided by the CEMACH system, the U.K. maternity system has been able to reduce the number of maternal deaths each triennium. There was a slight but statistically insignificant rise in the death rate described in the sixth and seventh reports.

If the amount of money spent on maternity care provided an accurate indication of how well we are doing, mothers in the United States would be the luckiest in the world. After all, our country has the distinction of spending more per birth than any nation in the world on maternity care for the 4.3 million births that take place each year. Apparently, we are not spending that money in the smartest way possible, and it's about time that we did.

Can you imagine the passage of laws that would effectively scrap our fragmented way of gathering health information and institute a system like that in the United Kingdom?

- Reporting of deaths would be mandatory.
- Failure to report a death or error would result in penalization.
- Death certificates for all the states would ask the same questions regarding the pregnancy status of women of childbearing age who have died.

 You can download the latest edition of *Saving Mothers' Lives* (seventh report) and previous editions (titled *Why Mothers Die*) at the Web site for the Confidential Enquiry into Maternal and Child Health (www.cemach.org.uk).

- Death certificates would be completed only by individuals who have been instructed how to fulfill this task properly.
- An autopsy would be performed following the death of a woman of childbearing age. (Studies have shown that there is a 25%–40% rate of error in diagnosis if there is no autopsy.)
- Maternity insurance of all types would cover the payment of such autopsies.
- There would be periodic audits of maternal death data.

THE SAFE MOTHERHOOD QUILT PROJECT

About 8 years ago, I began to feel powerfully impelled to follow the example of the AIDS Quilt in drawing attention to a problem that wasn't getting the attention it needed. Whenever I receive documentation about a U.S. woman's death from pregnancy-related causes between 1982 and the present, I arrange for a quilt block to be made in her honor. Sometimes a family member or friend creates the block; other times it is made by one of the many who have contributed their efforts to the project.


The Safe Motherhood Quilt was first exhibited at the Summit for Safe Motherhood, sponsored by the CDC, the American College of Obstetricians and Gynecologists, and the American College of Nurse-Midwives, which was held in Atlanta on September 4–5, 2001. Since then, it has been shown at the Oakland Museum, Dartmouth-Hitchcock Medical Center, and many other sites in the United States, as well as in Brazil, Iceland, Germany, Austria, Hungary, France, England, Ireland, Scotland, Northern Ireland, Italy, Canada, England, Costa Rica, and Mexico.

I am sure that when enough people are informed about the maternal death problem in our country, we can exert enough political pressure to fix it. Only when we are able to equal the United Kingdom's CEMACH system of ascertaining and analyzing maternal deaths will we be able to find out the causes of

preventable maternal deaths and then set about preventing them.

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 For more information about the Safe Motherhood Quilt Project, log on to www.rememberthemothers.net

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